

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Peter SATTLER et al.

Serial No. (unknown)

Filed herewith

INJECTION MOULDING DEVICE
HAVING A COOLED VALVE PIN
GUIDE BUSH

PRELIMINARY AMENDMENT

Commissioner of Patents

Washington, D.C. 20231

Sir:

Prior to calculation of the filing fee, please amend the above-identified application as follows:

IN THE CLAIMS:

Amend claim 4 as follows:

--4. (amended) Injection moulding device (1) according to claim 1, the bush being seated in a cavity (21) in the mould body (2) at a distance from the sidewalls of the cavity (21), the bush having a lower shoulder (24), a clamping ring (22) being screwed into the cavity (21) and engages with the shoulder (22) on the bush, an inner wall (25) of the clamping ring (22) being spaced away from the sidewall of the bush (13).

Amend claim 5 as follows:

--5. (amended) Injection moulding device (1) according to claim 1, wherein the actuator means (15) comprises a cylinder (15) that is placed above the valve pin (11),

coaxial therewith, a cylinder housing (30) being detachably coupled to a cooling plate (14) having a cooling channel (18) located below the cylinder (15) and having a bore (47) accommodating the upper end of the bush (13).

Amend claim 6 as follows:

--6. (amended) Manifold unit (2) for use in an injection moulding device according to claim 1, comprising a central channel, a branching channel (21) and at least one nozzle (3) connected to the branching channel, the cooling plate (14) being supported on the manifold body (2) via a refractive spacer member (52), a cylinder being placed above the valve pin (11), coaxial therewith, the cylinder housing (30) being coupled to the cooling plate, the cooling plate (14) comprising a cooling channel (18) located below the cylinder (15) and having a bore (47) accommodating the upper end of the bush (13).

R E M A R K S

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

4. Injection moulding device (1) according to ~~any of~~
~~the preceding claims~~ claim 1, the bush being seated in a cavity
(21) in the mould body (2) at a distance from the sidewalls of
the cavity (21), the bush having a lower shoulder (24), a
clamping ring (22) being screwed into the cavity (21) and
engages with the shoulder (22) on the bush, an inner wall (25)
of the clamping ring (22) being spaced away from the sidewall of
the bush (13).

5. Injection moulding device (1) according to ~~any of~~
~~the preceding claims~~ claim 1, wherein the actuator means (15)
comprises a cylinder (15) that is placed above the valve pin
(11), coaxial therewith, a cylinder housing (30) being detach-
ably coupled to a cooling plate (14) having a cooling channel
(18) located below the cylinder (15) and having a bore (47)
accommodating the upper end of the bush (13).

6. Manifold unit (2) for use in an injection moulding
device according to ~~any of the preceding claims~~ claim 1,
comprising a central channel, a branching channel (21) and at
least one nozzle (3) connected to the branching channel, the
cooling plate (14) being supported on the manifold body (2) via
a refractive spacer member (52), a cylinder being placed above
the valve pin (11), coaxial therewith, the cylinder housing (30)
being coupled to the cooling plate, the cooling plate (14)
comprising a cooling channel (18) located below the cylinder
(15) and having a bore (47) accommodating the upper end of the
bush (13).